

PATENT SPECIFICATION

707,258



Date of filing Complete Specification : Dec. 11, 1952.

Application Date : Dec. 12, 1951. No. 29088/51.

Complete Specification Published : April 14, 1954.

Index at Acceptance :—Class 81(1), B11B1(A : B2 : D : F : H : N : Q : R : S : T : Z), M.

COMPLETE SPECIFICATION.

Cosmetic Preparations.

I. HUMPHREY LIONEL GORDON

ERRATA

SPECIFICATION NO. 707,258

- Page 2, line 28, for "means" read "meaning".
- Page 2, line 127, after "age" insert "either".
- Page 4, lines 60 and 63, for "emusifying" read "emulsifying".
- Page 5, line 101, for "comprising" read "comprises".
- Page 5, line 128, after "brown" insert "coloured".

THE PATENT OFFICE,
14th June, 1957

DB 61869/2(9)/3716 150 6/57 R

- ... and behaviour of the skin. In cases where the climate is more temperate, there remains the circumstance that both the colour of the skin to be treated and the specific nature and texture of the complexion of brown or black people, owing much of course to hereditary influences, constitute factors making the provision of a suitable cosmetic a problem for special study.
- The many face creams and like cosmetic compositions designed to preserve, beautify and otherwise improve the complexion are for the most part based on work which presumes that a white skin has to be treated. Any further presumption that such a preparation is equally efficacious on brown or black skins ignores the factors already mentioned and equally is at variance with experience. When applied to dark-hued complexions, such preparations often leave an impression of a superficial faint light-coloured deposit on the dark skin and even
- ... substance obtained by alkaline digestion of pectocellulose or mucocellulose. Such a cream is suitable for use as such, but if desired substances such as glycerine or wax, modifying the consistency, may be incorporated. Perfumes may be added to increase the attractiveness of the cream. Estrogenic hormones, vitamin D, cholesterol, substances possessing medicinal properties such as sulphur, boric acid and zinc oxide, or other special purpose ingredients may be incorporated while anti-oxidants may be added to prevent the development of rancidity, as well as substances to inhibit bactericidal and fungicidal activity. The cream is also suitable for use in the production of a powder cream by incorporating finely divided pigments such as Vandyke Brown, Indian Red and Ivory Black.
- The non-drying oil which constitutes a major proportion of the cosmetic cream of the invention may be any non-drying animal, vegetable or mineral oil, preferably one

PATENT SPECIFICATION

707,258



Date of filing Complete Specification : Dec. 11, 1952.

Application Date : Dec. 12, 1951. No. 29088/51.

Complete Specification Published : April 14, 1954.

Index at Acceptance :—Class 81(1), B11B1(A : B2 : D : F : H : N : Q : R : S : T : Z), M.

COMPLETE SPECIFICATION.

Cosmetic Preparations.

I, HUMPHREY LIONEL OREHMIE GEORGE, a British Subject, of 13 Chelsea Embankment, London, S.W.3, do hereby declare the invention, for which I pray that a patent may be granted to me and the method by which it is to be performed, to be particularly described in and by the following statement:

The care and preservation of the complexions of dark-skinned people has not hitherto received attention as a special problem to the same extent as arises with white people, although it is becoming more widely appreciated that in many respects different factors arise for consideration.

The majority of such people live in tropical or semi-tropical climates where powerful sun and sunlight can greatly affect the suppleness and texture of the skin. Such climates likewise do much to dictate the nature of the foods normally consumed, a factor which can again materially affect the nature and behaviour of the skin. In cases where the climate is more temperate, there remains the circumstance that both the colour of the skin to be treated and the specific nature and texture of the complexion of brown or black people, owing much of course to hereditary influences, constitute factors making the provision of a suitable cosmetic a problem for special study.

The many face creams and like cosmetic compositions designed to preserve, beautify and otherwise improve the complexion are for the most part based on work which presumes that a white skin has to be treated. Any further presumption that such a preparation is equally efficacious on brown or black skins ignores the factors already mentioned and equally is at variance with experience. When applied to dark-hued complexions, such preparations often leave an impression of a superficial faint light-coloured deposit on the dark skin and even

at best their effect in no way enhances the natural colour and beauty of the complexion. 45

The present invention has as its object the manufacture and provision of a cosmetic preparation specifically adapted for application to the complexions of brown or black persons to enhance and preserve the beauty of such complexions and also if so desired, to provide a foundation for the application of such further beautifying powders or other preparations as custom, fashion or individual choice may demand. 50 55

Accordingly, the present invention provides a cosmetic cream suitable for application to dark complexions which comprises a matured aqueous emulsion prepared from a major proportion of a non-drying animal, vegetable or mineral oil as hereinbefore defined, or a mixture thereof, and minor proportions of an oil-soluble emulsifying agent and of a mucilaginous substance obtained by alkaline digestion of pectocellulose or mucocellulose. Such a cream is suitable for use as such, but if desired substances such as glycerine or wax, modifying the consistency, may be incorporated. Perfumes may be added to increase the attractiveness of the cream. Estrogenic hormones, vitamin D, cholesterol, substances possessing medicinal properties such as sulphur, boric acid and zinc oxide, or other special purpose ingredients may be incorporated while antioxidants may be added to prevent the development of rancidity, as well as substances to inhibit bactericidal and fungicidal activity. The cream is also suitable for use in the production of a powder cream by incorporating finely divided pigments such as Vandyke Brown, Indian Red and Ivory Black. 60 65 70 75 80

The non-drying oil which constitutes a major proportion of the cosmetic cream of the invention may be any non-drying animal, vegetable or mineral oil, preferably one 85

which has been refined, if necessary, so as to conform with the standards of purity of such products required for pharmaceutical use. Part of the animal or vegetable oil may, if desired, be replaced by a refined mineral oil. A suitable mineral oil which may be used is the medicinal paraffin oil produced by the petroleum industry. This is a highly refined oil produced from a lubricating oil distillate by solvent extraction and treatment with fuming sulphuric acid and alcoholic alkali solution. Such mineral oils have the advantage of possessing high resistance to oxidation and are therefore less likely to become rancid when the creams are stored, particularly under tropical conditions.

The non-drying animal and vegetable oils which are used in the cosmetic creams of the invention consist essentially of the glyceryl esters of the higher saturated or unsaturated fatty acids or hydroxy fatty acids and include not only products which are normally liquid, but also the low melting substances generally known as fats. The term "oil" as used throughout this Specification and in the appended claims is therefore to be construed as means a normally liquid oil or a fat. Suitable animal oils which may be used are lard, lard oil and hydrogenated fish oils. Preferably, the oils which are used in the creams of the invention are vegetable oils particularly the so-called nut oils. Examples of suitable vegetable oils are almond oil, olive oil, palm nut oil, palm kernel oil, arachis oil, hazel nut oil, cotton seed oil and rape seed oil. The oil preferably constitutes at least 30 per cent by weight of the finished cream.

The mucilaginous substance which is used in the cosmetic creams of the invention is preferably prepared by subjecting the rind of citrus fruits, suitably comminuted, to an alkaline digestion with an aqueous solution of an alkali metal hydroxide or of an alkali metal carbonate. Preferably a dilute aqueous solution is used. Digestion is effected at elevated temperatures, for example by boiling, and if desired under pressure, for sufficient time to secure a homogeneous dark-coloured mucilage or colloidal mass on cooling. The amount of alkali used need not be in quantity much in excess of that required to neutralise the acids present or formed in the course of the digestion, about 1 ounce of sodium hydroxide per 3 pounds of rind being in general sufficient. Likewise the quantity of water present may be regulated with due regard to the mucilaginous composition which it is desired to obtain. In general, a solution containing from 2 to 10 per cent by weight of alkali metal hydroxide or carbonate can be used. Working at atmospheric pressure a suitable digestion can

generally be accomplished by boiling for about 2 to 5 hours or in a shorter time by carrying out the digestion under pressure. The rind of orange, lemon, grapefruit, or other citrus fruit is equally suitable for this purpose.

Instead of the rind of citrus fruit, other vegetable tissues containing pectocellulose or mucocellulose may be subjected to alkaline digestion in a similar manner, for example, apples, pears, grapes, sugar beet, carrots, turnips, flax or rhamie fibre. If necessary, the digestion product is sieved or strained to remove solid material. Commercially available pectin preparations may also be used, and subjected to the treatment with hot aqueous alkali.

The aqueous emulsions of the non-drying oil are prepared with the aid of an oil-soluble emulsifying agent. Suitably, a non-ionic emulsifying agent is used. Products which have given very satisfactory results are the partial esters of polyhydric alcohols with higher fatty acids containing at least 10 carbon atoms in the molecule, for example, glycol mono-oleate or mono-stearate, glyceryl mono-oleate, glyceryl dioleate, glyceryl mono-palmitate, glyceryl dipalmitate, glyceryl mono-stearate, glyceryl di-stearate and sorbitan mono-oleate. Fatty alcohols containing at least 10 carbon atoms in the molecule, such as cetyl alcohol and stearyl alcohol may also be used as well as lanolin or lanolin alcohols.

In preparing the cosmetic creams of the invention, an emulsion of the oil is prepared either by dissolving the emulsifying agent in the oil and then mixing with water or by producing an emulsifying agent in situ by partially hydrolysing an animal or vegetable oil. Partial hydrolysis may be effected by boiling the animal or vegetable oil with water, suitably with rather more than twice its volume of water, if desired under pressure, and may be promoted by adding an acid such as hydrochloric acid in catalytic amounts. A thin emulsion is thereby obtained which on cooling with agitation yields a more viscous emulsion. The latter on addition of some common salt with continuing agitation yields a product of butter-like consistency which is incorporated with the aforesaid mucilaginous product derived from the rind of citrus fruit. The free fatty acid produced during the partial hydrolysis of the oil can be used to neutralise any excess alkali in the mucilaginous product. Preferably, the mixture should have a substantially neutral reaction to litmus, though a slightly acid or alkaline reaction can be tolerated. The mixture of mucilaginous product and emulsion is allowed to age in bulk or spread out in a layer on a suitable surface. Ageing may be effected at room temperature. It may be accelerated by em-

ploying somewhat higher temperatures and by periodically stirring or kneading the mass to expose fresh surfaces to the air or oxygen containing gas. A dark brown mass is obtained which, if ageing is allowed to continue for some few weeks, may become quite firm and almost dry, depending upon the proportions of mucilaginous substance and aqueous oil emulsion initially compounded. For instance, if the mucilaginous substance and the aqueous oil emulsion are compounded in the ratio of about 1 to 4, a stiff dark brown mass results after 2 to 3 weeks' ageing at room temperature.

This material is further compounded with an additional quantity of the same aqueous oil emulsion with which the mucilaginous product was compounded or with a different oil emulsion, for example containing a different oil or mixture of oils, or prepared with the aid of a different oil-soluble emulsifier. Further maturation of this compounded material leads to a deepening of the colour and to an improvement in the homogeneity of the cream. Preferably, a small quantity of glycerine is added to avoid any further drying out and likewise agents which prevent rancidity or bactericidal or fungicidal action are also incorporated in sufficient amount to prevent undesirable degradation of the components of the cream.

By varying the amounts of the aforesaid ingredients and the time of ageing, it is a relatively simple matter to control the colour tone of the composition so as to yield creams suitable for complexions of diverse shades from medium brown to full black. Likewise, the consistency of the compositions can be similarly modified so as to make them suitable for storage and use in different climates.

The preparation of the cosmetic creams of the invention is illustrated in more detail in the following examples.

EXAMPLE I

Orange peel (20 pounds) or other peel of citrus fruit was boiled with 24 pints of aqueous sodium hydroxide solution containing 6 ounces of sodium hydroxide for about 3 hours when a thick pulp (26 pounds) was obtained which can here be termed Product A.

Product B was prepared by boiling a mixture of arachis oil (2 pints) and palm nut oil (2 pints) with water (5 pints) until a thin emulsion was obtained. This was allowed to cool to about room temperature and was then shaken vigorously until a semi-solid emulsion was obtained. Common salt (5.5 ounces) was then added and the mixture was stirred vigorously for about 3 hours when a stiff buttery mixture—Product B—was obtained.

Product A (8 ounces) was then intimately

mixed with Product B (2 pounds) until a smooth mixture was obtained. The pale yellow mixture, which had a substantially neutral reaction to litmus was exposed to the air at room temperature for 21 days with frequent stirring. It was then dry and stiff and dark brown in colour. This dried product was then intimately mixed with a neutral paste prepared by stirring together 0.75 pints of arachis oil, 2 pints of distilled water, 0.5 pounds of ABRACOL G.M.S. and 0.1 ounces of ANTOSSEPT. (ABRACOL G.M.S. is the Registered Trade Mark for an emulsifying agent believed to consist largely of glyceryl mono-stearate. ANTOSSEPT is the Registered Trade Mark for a bactericide.) A fine paste was obtained which was then allowed to mature for 16 to 18 days at room temperature in a closed vessel. During this period, the colour gradually deepened until a very dark brown cream was obtained which formed an excellent cream for application to dark complexions.

To prevent the product subsequently drying out, it was intimately mixed with glycerine in the proportion of 60 pounds of product to 1.5 pounds of glycerine and then put up in jars.

EXAMPLE II

In this example, a similar procedure to that described in Example I was followed, except that a commercially available pectin preparation (10 pounds) was used in place of the orange peel. This pectin was boiled with dilute sodium hydroxide solution and the brown product obtained was mixed with Product B prepared as described in Example I. A smooth dark brown cream was obtained which was excellent for application to dark complexions.

EXAMPLE III

In this Example, Product B was prepared by stirring a mixture of olive oil (4 pints), water (5 pints) and glyceryl mono-oleate (4 ounces) when a viscous emulsion was obtained. Instead of glyceryl mono-oleate, glyceryl di-oleate or a mixture of the mono- and di-oleates, may be used. The corresponding glyceryl stearic acid esters may also be used. Alternatively, the partial oleic or stearic acid esters of glycols such as ethylene glycol may be employed. The product (2 pounds) was then mixed with mucilaginous product (8 ounces) prepared either as described in Example I (Product A) or as described in Example II. The subsequent procedure was then as described in Example I.

EXAMPLE IV

In this example, Product A was prepared as described in Example I. Product B was prepared by emulsifying

4 pints of medicinal paraffin oil with water, using glyceryl mono-stearate (8 ounces) as emulsifying agent. This emulsion (2 pounds) was intimately mixed with Product A (8 ounces) and the product allowed to age for 8 weeks until very dark brown in colour. The resulting product was then incorporated with a further 2.5 points of the medicinal oil emulsion. The mixture was allowed to age for a further 10 weeks when a dark brown smooth cream was obtained.

EXAMPLE V

In this Example, Product A was prepared as described in Example I.

Product B was prepared by boiling a mixture of arachis oil (2 pints), palm nut oil (2 pints), beeswax or white wax (2 ounces) in water (5 pints) until a thin emulsion was obtained which was cooled with stirring. The product was intimately mixed with Product A and bleached palm oil (2 pints) was then stirred into the mixture. The almost solid product was allowed to stand in presence of air with frequent stirring for 2 to 3 weeks at the end of which period a dark brown colour had developed.

An oil emulsion prepared from 0.25 pounds of ABRACOL G.M.S., 2 pints of distilled water, 0.1 ounces of ANTOSPT and 0.75 pints of arachis oil was then intimately mixed with the dark brown product and the mixture again left to mature, when a stiff, dark brown ointment was obtained.

What we claim is:—

1. A cosmetic cream for application to dark complexions comprising a matured aqueous emulsion prepared from a major proportion of a non-drying animal, vegetable or mineral oil as hereinbefore defined, or mixture thereof, and minor proportions of an oil-soluble emulsifying agent and a mucilaginous substance obtained by alkaline digestion of a pectocellulose or mucocellulose.

2. A cream as claimed in Claim 1 wherein the mucilaginous substance is obtained by boiling the rinds of citrus fruit with a dilute aqueous solution of an alkali metal hydroxide.

3. A cream as claimed in Claim 1 or 2 wherein the mineral oil is a medicinal paraffin oil.

4. A cream as claimed in Claim 1 or

Claim 2 wherein the oil is a vegetable nut oil.

5. A cream as claimed in any one of the preceding claims wherein a wax is incorporated in the non-drying oil.

6. A cream as claimed in any one of the preceding claims wherein the emulsifying agent is a non-ionic emulsifying agent.

7. A cream as claimed in Claim 6 wherein the emulsifying agent is a partial ester of a polyhydric alcohol and a fatty acid containing at least 10 carbon atoms in the molecule.

8. A cream as claimed in Claim 7 wherein the emulsifying agent is a glyceryl mono- or di-ester of oleic, palmitic or stearic acid, or any mixture thereof.

9. A cream as claimed in any one of Claims 6 to 8 wherein the emulsifying agent is prepared in situ by partially hydrolysing a non-drying animal or vegetable oil.

10. A process of preparing a cosmetic cream which comprises preparing an emulsion of a non-drying animal, vegetable or mineral oil as hereinbefore defined, or a mixture thereof, with the aid of an oil-soluble emulsifying agent, intimately mixing therewith a mucilaginous substance obtained by alkaline digestion of pectocellulose or mucocellulose, ageing the resulting mixture in presence of air or an oxygen-containing gas, intimately mixing the aged product with the same or a different aqueous emulsion of a non-drying animal, vegetable or mineral oil as hereinbefore defined, or a mixture thereof, prepared with an oil-soluble emulsifying agent, and maturing the resulting mixture until the desired dark colour has developed.

11. A process as claimed in Claim 10 wherein at least one emulsion is prepared by boiling a non-drying animal or vegetable oil with water, to produce an emulsifying agent in situ by partial hydrolysis of the oil and cooling and agitating the product.

12. A process as claimed in any one of Claims 10 or 11 wherein glycerine is incorporated in the matured product.

13. A process for preparing a cosmetic cream substantially as hereinbefore described with reference to the Examples.

14. A cosmetic cream whenever prepared by the process as claimed in any one of Claims 10 to 13.

H. L. O. GEORGE.

PROVISIONAL SPECIFICATION.

Cosmetic Preparations.

I, HUMPHREY LIONEL OREHMIE GEORGE, a British Subject, of 13 Chelsea Embankment, London, S.W.3, do hereby declare this

invention to be described in the following statement:—

The care and preservation of the com-

plexions of dark-skinned people has not hitherto received attention as a special problem to the same extent as arises with white people, although it is becoming more widely appreciated that in many respects different factors arise for consideration.

The majority of such people live in tropical or semi-tropical climates where powerful sun and sunlight can greatly affect the suppleness and texture of the skin. Such climates likewise do much to dictate the nature of the foods normally consumed, a factor which can again materially affect the nature and behaviour of the skin. In cases where the climate is more temperate there remains the circumstance that both the colour of the skin to be treated and the specific nature and texture of the complexion of brown or black people, owing much of course to hereditary influences, constitute factors making the provision of a suitable cosmetic a problem for special study.

The many face creams and like cosmetic compositions designed to preserve beautify and otherwise improve the complexion are for the most part based on work which presumes that a white skin has to be treated. Any further presumption that such a preparation is equally efficacious on brown or black skins ignores the factors already mentioned and equally is at variance with experience. When applied to dark-hued complexions such preparations often leave an impression of a superficial faint light-coloured deposit on the dark skin and even at their best effect in no way enhances the natural colour and beauty of the complexion.

The present invention has as its object the manufacture and provision of a cosmetic preparation specifically adapted for application to the complexions of brown or black persons to enhance and preserve the beauty of such complexions and also if so desired, to provide a foundation for the application of such further beautifying powders or other preparations as custom, fashion or individual choice may demand.

The essential ingredients from which the cosmetic preparations are made are a non-drying vegetable oil, and preferably a nut oil, water, the rind of a citrus fruit and an emulsifying agent. In its broadest aspect my invention can be regarded as relating to a cosmetic preparation as aforesaid wherein the mucilaginous or colloidal product of an alkali digestion of the rind of citrus fruits is intimately mixed with an aqueous emulsion of the aforesaid non-drying vegetable oil prepared wholly or in part with the aid of an emulsifying agent. Such a preparation suitably aged and compounded can be used as such without further adjuvants, but if desired substances such as glycerine modifying the consistency, or substances modify-

ing the odour may be incorporated together with very minor amounts of substances serving to prevent the onset and development of rancidity or bactericidal and fungicidal activity.

In preparing a mucilaginous or colloidal product from the rind of citrus fruits the latter, suitably comminuted, is subjected to an alkaline digestion with aqueous metal hydroxide, preferably a relatively dilute solution of the said hydroxide being used.

Alternatively an aqueous solution of alkali metal carbonate may be used. Digestion is effected at elevated temperatures, and if desired under pressure for sufficient time to secure a homogeneous dark-coloured mucilage or colloidal mass on cooling. The amount of alkali used need not be in quantity much in excess of that required to neutralise the acids present or formed in the course of the digestion, and likewise the quantity of water present may be regulated with due regard to the mucilaginous or colloidal composition which it is desired to obtain. Working at ordinary pressures a suitable digestion can generally be accomplished by boiling for a few hours. The rind of orange, lemon, grapefruit or other citrus fruit is equally suitable for this purpose.

In preparing an emulsion of a non-drying vegetable oil it is preferred to start from a nut oil such as almond oil, palm kernel oil, hazel nut oil or arachis oil, but my invention is not confined to the use of such materials and comprising other non-drying vegetable oils such as olive oil, palm oil and the like. The aqueous emulsions can be prepared wholly or in part with the aid of emulsifying agents of which a wide variety are now available in colours. Suitably a non-ionic emulsifying agent is employed. Products which have given very satisfactory results are glyceryl monostearate and glyceryl mono-oleate, but these are but two selected from a diversity of agents which are effective in making the preparations according to my invention.

In a preferred method of making these cosmetic preparations I take a nut oil or a mixture of such oils and boil this with rather more than twice its volume of water, if desired under pressure until, as a consequence of some partial hydrolysis a thin emulsion is obtained which on cooling with agitation yields a more viscous emulsion. The latter on addition of some common salt with continuing agitation yields a product of butter-like consistency and can be incorporated with the aforesaid mucilage or colloidal product derived from the rind of citrus fruits, and the mass allowed to age; thereby a dark brown mass is obtained, and if ageing continues for a few weeks the mass may become quite firm and almost dry,

depending upon the proportions of colloidal product and aqueous oil emulsion initially compounded. For instance, if colloidal product and aqueous oil emulsion are compounded in the ratio of about 1:4 a stiff dark brown coloured mass results after a few weeks ageing.

This material is further compounded with a further quantity of aqueous oil emulsion which may be prepared as already described, or alternatively with the aid of a synthetic emulsifier as for instance glyceryl monostearate. Further maturation of this compounded material can lead to some darkening of the colour tone and to an improvement of the homogeneity of the cream. Preferably a small quantity of glycerine is added to avoid any further drying out and

likewise agents which prevent rancidity or bactericidal or fungicidal action are also incorporated in sufficient amount to prevent undesirable degradation of the components of the cream. 20

By varying the amounts of the aforesaid ingredients and the time of ageing it is a relatively simple matter to control the colour tone of the composition so as to yield compositions suitable for complexions of diverse shades ranging from medium brown to full black. Likewise the consistency of the compositions can similarly be modified so as to make them suitable for storage and use in different climates. 25 30

H. L. O. GEORGE.

Abingdon : Printed for Her Majesty's Stationery Office, by Burgess & Son (Abingdon), Ltd.—1954.
Published at The Patent Office, 25, Southampton Buildings, London, W.C.2,
from which copies may be obtained.